

University's Major Portfolios Continue to Perform Well

The last regular meeting of the Board of Governors took place on Friday, 9 May. The following topics were among those discussed during the non-confidential portion of the meeting.

University Investments

Flourish

The Governors had a treat in store at their May meeting. Charged with the financial management of the University, they happily received a report prepared by

Pension Finance Associates on the University's major portfolios. The Consolidated Pool and the Killam Fund, managed by Jarislowsky Fraser, have demonstrated superior performance over the last 10 years and should be the envy of any fund manager in the country. The Total Equity portfolio of the Consolidated Pool has yielded a return of 21.6 percent and the Killam Fund has demonstrated an 18.8 p.a. return. Over the same period, the Consumer Price Index

increased at an average rate of 7.8 percent p.a.

Why the consistently superior performance? According to the PFA representative, the reason that these two funds are among the highest achievers in the country—out of more than 120 major funds assessed only four have achieved this level of performance—is the asset mix due to Equities' superior yields over the long and short terms. In addition, the maintenance of a good

percentage of Foreign Equities has proved very beneficial to over-all fund results. Both funds also have demonstrated "superior security selection."

PhD Program in Nursing

The Board Educational Affairs Committee and the Board Finance Committee recommended, and received Board approval for, the establishment of a PhD program in Nursing, subject to the availability of appropriate funding. The program had been endorsed by General Faculties Council (see *Folio*, 3 April 1986). The cost of the program during an initial five-year period will be in the order of \$3,354,260 in 1986-87 dollars.

Appointments

The Educational Affairs Committee reported for information the following department chair appointments. Each appointment becomes effective 1 July with the exception of the Anatomy Department whose chairman will take office on 1 June.

Richard Chenier will head the Department of Art and Design for the next five years. He had served as Associate and Acting chairman of the department during the past few years. An alumnus of our University, he has been teaching here since 1977.

David Hall will assume the chairmanship of the Department of History. His appointment is for five years. Dr. Hall, who has been on campus since 1971, received his undergraduate degree from this University and his graduate degrees from the University of Toronto.

The Department of Anthropology will be guided by
Continued on page two

FOLIO

University of Alberta

22 May 1986

Technology Gives Toothless Canadians Reason to Smile

At three million Canadians who wear dentures have a reason to smile now that the Canadian dental profession is being taught to use revolutionary technology which allows false teeth to be permanently anchored to the human jawbone. The Faculty of Dentistry is playing a major role in the teaching of this new technology and has even taken it a step further by developing a significant improvement over this technique.

The Faculty was chosen as one of five training centres in North America and from 14 to 16 May, about 90 oral surgeons and dental general practitioners (most of them from the United States and Sweden) were on campus to learn the procedure. The workshop offered instruction in the surgical and prosthetic procedures of the system. It also included special training for technicians and nurses.

One of the reasons that Dentistry was chosen as a training centre is the presence of Balraj Arora, Assistant Dean, and Dennis Gilboe, Chair, Divisions of Fixed and removable Prosthodontics. They have been successfully conducting a project for the past three years using the implant technique. Several years ago, Arora travelled to



Viewpoint

A patient opens wide as inspecting dentists witness the new implant technique.

Sweden to learn the technique. When he returned, he invited Gilboe to become involved. The procedure requires a surgeon (Arora) and a prosthodontist (Gilboe) and since their collaboration, 20 patients have undergone the implant.

The recent three-day session, under Arora and Gilboe's direction,

benefited from the participation of Ulf Lekholm of Sweden, a pioneer in the development of the implant system. Registrants were given demonstrations by Drs. Gilboe, Arora and Lekholm and patient presentations and evaluations were conducted as well.

The advance which Arora and Gilboe have devised allows for a permanent partial implant and is a boon for patients who have lost only several teeth. The traditional approach to tooth replacement has been either removable partial denture, or a fixed bridge, which requires reduction of the teeth adjacent to the space on which supporting crowns are cemented with a connecting replacement tooth. Now, with Dentistry's new technique, this is no longer the case.

The implant innovation involves the insertion of tiny metal fixtures, similar to screws, into the jawbone. These fixtures, made of pure titanium, actually bond with the bone and become the anchors for a complete set of artificial teeth, or replacement of a single tooth. The system permits the bone tissue and the tooth replacements to remain secure for at least 15 years.

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Blodgett, Sykes Elected to Fellowship in Royal Society of Canada

Edward Blodgett (Comparative Literature) and Brian Sykes (Biochemistry) have been elected to Fellowship in the Royal Society of Canada.

The induction ceremony will take place on 1 June at the University of Manitoba. A total of 47 Canadian humanists and scientists will join Canada's most distinguished learned society.

Dr. Blodgett holds a BA from Amherst College, an MA from the University of Minnesota and a PhD from Rutgers University. He also studied at the Université Aix-Marseille while a lecturer at the Institute for American Universities in France.

A poet, translator and medievalist, his published works include *take away the names, Sounding, Beast Gate and Configuration: Essays in the Canadian Literatures.*

Dr. Blodgett has taught English, French, Canadian and Comparative Literature and has distinguished himself through numerous books and articles.

The Royal Society Citation states that Dr. Blodgett has exercised "a seminal and methodologically innovative influence on the development of the comparative study of Canadian literatures and their national and international relations."

He is Director of the Canadian Division of the Research Institute for Comparative Literature.

Dr. Sykes took his BSc here and his PhD (Physical Chemistry) at Stanford University. He taught at Harvard University before returning to the University of Alberta in 1975.

He has achieved an international reputation in the field of nuclear magnetic resonance spectroscopy of

proteins.

In 1982, he won two highly regarded honors—the Ayerst Award given by the Canadian Biochemical Society and the Steacie Prize. The latter, named after a former president of the National Research Council, is awarded annually to an investigator under age 40 who has made significant contributions to research in Canada.

The Royal Society of Canada, founded in 1882, endeavors to recognize high distinction in the humanities, the social sciences and the sciences by elections to fellowship and by the awarding of medals, prizes and scholarships. It holds or sponsors symposia to ascertain the state of subjects of interest and so inform the public.

Alexander McKay of McMaster University is President of the Society. □

Board—continued

Henry Lewis. Dr. Lewis studied at Fresno State College and the University of California, Berkeley, before his appointment to the department in 1971. His term as Chairman extends to 1990.

Richard Murphy, the new Chairman of Anatomy, comes to this University from Harvard Medical School. He brings to the department a major research interest in nerve growth factor and epidermal growth factor, for which he has developed an international reputation.

Parking Fees

On the recommendation of the Finance Committee, the Board approved the following schedule of parking fees for the 1986-87 academic year:

- **Reserved Stall:** with plug-in, \$360 p.a. (\$30 p.m.); without plug-in, \$324 p.a. (\$27 p.m.); additional fee for 24-hour reserved stall, \$60 p.a. (\$5 p.m.).
- **Reserved Zone:** with plug-in, \$300 p.a. (\$25 p.m.); without plug-in, \$264 p.a. (\$22 p.m.)
- **Peripheral Zone:** full-year, \$156 p.a. (\$13 p.m.).
- **Evening:** \$56 p.a. (\$10 p.m.).
- **Alternative Car:** annual fee, \$10.
- **Spring and Summer:** 3 weeks, \$11; 6 weeks, \$22.
- **Casual Permits (attended areas only):** arriving before 9:30 a.m., \$3.50; arriving after 9:30 a.m., \$2.50; arriving after 1 p.m., \$2; arriving after 4:30 p.m. (Windsor,

Corbett, G & L), \$1. Hourly lots (Education Car Park): first half hour, \$0.50; second half hour, \$0.75; each hour thereafter, \$1; daily maximum, \$6. Other hourly lots, \$1 p.h. to a maximum of \$3. Weekends and holidays, \$2 all day. ● **Parking Meters:** Subject to City of Edmonton rates, \$0.80 p.h.

Building Committee

The Building Committee (BBC) recommended Board approval for several items. These included approval for spending an amount not to exceed \$2,775,000 for provision of a 59 trailer complex to meet space needs for the expanded undergraduate programs in occupational and physical therapy and \$538,000 for an extension of the utilities tunnel shell from south of the Blood Transfusion Building to Corbett Hall. The trailers will be phased in over three years to the west of Corbett Hall. People parking in that area will be allocated new space close to Corbett Hall. The Building Committee reported also that it had approved the expenditure of \$295,000 for the provision of nine trailers to meet the immediate space needs of the Faculty of Rehabilitation Medicine. (See Folio, 15 May 1986.) A further set of six trailers are to be set up in the court east of the Civil/Electrical Engineering Building to accommodate 72 graduate students from the Departments of Civil and

Electrical Engineering.

Among other matters presented to the Board by BBC was a proposal concerning the proposed Collections Building. In essence, as Vice-President (Administration) Warrack explained, the effect of the proposal is to expedite planning and construction of a \$12 million facility that will accommodate future expansion.

Other Matters

Other topics presented to or addressed by the Board were a draft policy on "University Participation in Joint Ventures with Industry; Research Consulting by University Staff; Conflicts of Interest" (with editorial changes suggested at the 24 March GFC meeting incorporated in the document); a

Technology—continued

The problems of patients who have lost all their natural teeth increase when the parts of the jawbone that originally housed the teeth begin to shrink. This shrinking, called resorption, is progressive. As the jawbone becomes smaller, there is less bone to comfortably support a normal denture.

This implant technique has undergone clinical tests for more than 20 years (no other implant procedure has been tested for this length of time). From 1979 to 1984, 99 percent of procedures on the lower jaw were successful, as were 95 percent of those on the upper jaw.

Two surgical appointments are required. In the first procedure, four to six tiny titanium fixtures are placed directly into the lower or upper jawbone. During a healing period of three to six months, in which the fixtures are non-visible in the mouth, the patient can wear a denture that has been re-fitted to prevent pressure. At the second surgical appointment connections are attached which project into the mouth to support the artificial teeth.

The key element is "osseointegration" (the bonding of the pure titanium fixture to the bone). The fixture's special micro-surface is an essential part of the bonding of bone to metal. □

quinquennial review of quotas; the GFC-endorsed "International Student Policy"; and the selection and review procedures for Deans and department chairmen.

Several of the matters referred to above have been covered in Folio; others will be the topics of future reports. □

Help Prevent Vending Vandalism

The following statement has been issued by David Bruch, Director, Housing and Food Services.

The University of Alberta has been experiencing an increase in vending machine vandalism and theft of coinage. The only way to control this kind of crime is by members of the University community assisting Campus Security. Anyone who witnesses an act of vandalism is asked to call Campus Security immediately.

Edmonton Coin Vending, the University's vending contractor, has offered a \$100 reward to anyone who forwards information which leads to a conviction under either civil law or the Code of Student Behaviour.

New Acquisitions Focus of Classics Museum

University Collections are spread all over campus with many being administered by individual departments. Such is the case of the teaching and research museum in the Department of Classics.

The collection is made up of material from the Near East, Egypt and from the Greek and Roman civilizations. It is the most important general public collection of antiquities west of the Royal Ontario Museum in Toronto.

The earliest items in the collection, currently housed in 1-14 Humanities Centre, are from the preliterate Ubaid culture in southern Iraq, which dates to the later fifth and fourth millennium B.C. The earliest artifact from Greek civilization is a Mycenaean feeding bottle, to which a 1,400 - 1,200 B.C. date has been assigned.

acquisitions. Of particular note is an Attic "black figure" wine amphora crafted by the "Painter of Louvre F6", (so named for the first identified example of this painter's art now housed in the famous Paris museum). This amphora dates to c. 540 B.C. and was purchased with a grant from the EFF University/Community Special Projects Fund. Another fine example of Attic pottery is a black glaze "kylix" or wine cup dating to c. 450 B.C.

Other material dating to the centuries before our era include a

fine terracotta figurine of the goddess "Tyche" (Fortune) and a two-handled cup from the East Mediterranean.

Roman artifacts are equally well represented, with red-slipped pottery from later Roman North Africa—a household lamp bought by the department and a bowl loaned by Sean Cormack. Several interesting coins are also on display as are a group of nails from the Roman legionary fortress at Inchtuthil dating to c. A.D. 80, the latter having been donated by Ernest Manning. (The coins have

been donated by Asker Ali Hussein, Bernard Spanner and Robert Kidd. Dr. Kidd's donation was a gold solidus of Valentinian I, emperor in A.D. 364-75).

This brief article does not do justice to this important and, perhaps, little known collection. Everyone is welcome to tour the museum. For arrangements, telephone the Department of Classics at 432-2338. It is hoped that the museum will be made even more accessible to the public in the near future. Read *Folio* for further details.□

McCalla Professor to Examine Export Demand of Canadian Wheat



This bust of Antonia Minor, daughter of the Marc Antony, was donated by the Randall C. Wallace Professional Corporation in 1983. It is one of only six contemporary representations of the lady said to have been murdered by the Emperor Caligula.

The prospects and constraints concerning the export demand of Canadian wheat will occupy the McCalla Professorship time of Michele Veeman (Rural Economy). The research project involves a consolidation and extension of her recent research activities relating to the marketing of Canadian grains.

During the 1986-87 academic term, Dr. Veeman will assess the prospects for future growth in world wheat markets, relate these prospects to the potential for expanded markets from Canadian wheat exports, and analyze various constraints which may impede achievement of expanded markets for Canadian wheat. According to Dr. Veeman, the structure of world wheat markets and trade patterns has undergone major changes over the past three decades and continued changes seem likely. "Western Europe, which was once a major wheat importing region, is now a major exporter", she says, adding that "Eastern Europe, the Soviet Union and China have become major wheat importers as well." This, Dr. Veeman feels, means that the import demand from these centrally planned nations accounts for a large proportion of Canadian export sales of wheat but the future level of these exports is uncertain.

She has found that preliminary assessments of demand prospects suggest that the middle-income and higher-income less developed nations may be the fastest growing world markets for wheat over the next decade. However, Dr. Veeman points out that "there is concern that the type of wheats for which

potential demand increases are most likely those with lower protein levels (and lower price levels) than the premium quality hard red spring wheats which Canada has traditionally specialized in producing and marketing." She will examine in more detail the characteristics of the potential

expanded markets for Canadian wheat exports. In addition, she will assess the various constraints, including regulatory systems for licensing and grading of wheat, that might impede achievement of expanded markets for Canadian wheat over the next two decades.□

Honorary Degrees for Lemieux, Stollery

Raymond Lemieux, Professor Emeritus of Chemistry, and Robert Stollery, Chairman and Chief Executive Officer, PCL Construction, are to be awarded honorary degrees shortly.

Dr. Lemieux will accept the honorary degree, Doctor of Science, at McMaster University's convocation exercises on 31 May. Mr. Stollery will be at Concordia University on 18 June to receive an honorary Doctor of Laws degree.

The Senate of McMaster University will honour Dr. Lemieux's contributions to research on carbohydrate chemistry and to the biological and medical sciences.

Commenting on Dr. Lemieux's "extraordinary career", Alvin Lee, President and Vice-Chancellor of McMaster University, said his work on the application of nuclear magnetic resonance spectroscopy to problems of configuration and conformation of organic compounds was typically pioneering. "Your studies in the chemistry of carbohydrates have

yielded hundreds of publications and discoveries, one of the first and most famous of which was the synthesis of sucrose."

Concordia University will pay tribute to Mr. Stollery's distinguished career as a contributor to the Canadian building construction industry and to his record of service to higher education and charitable organizations.

Mr. Stollery, who will deliver the convocation address, graduated from the University of Alberta and joined Poole Construction Limited as a field engineer in 1949.

Last year, this University awarded him an honorary Doctor of Laws degree "in recognition of outstanding contributions as a community leader and builder of organizations and structures."

PCL Construction Group of Companies, the employee-owned successor to Poole Construction Limited, is Canada's largest general contractor.□

On 26 April, the Classics Department held an open house to announce the display of several new acquisitions. These acquisitions, some 24 in all plus 13 ancient coins acquired during 1984, represent a broad range of material. There are, for example, three faience necklaces from Egypt made before 332 B.C., one of which was donated by David Kanani. Mr. Kanani also donated to the collection an iron age jug made in Cyprus in ninth or eighth century and a Roman perfume flask from the third or fourth century after Christ.

Pottery from Athens is also well represented in the recent

Fitness For All

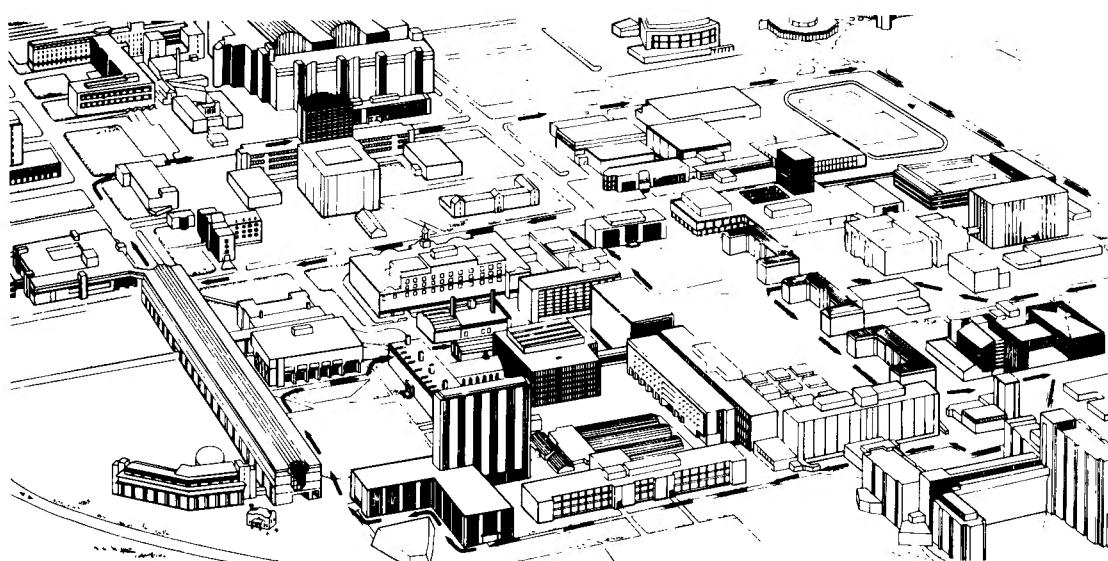
Do you not agree that the best way to see something of your University is to stroll its walkways (assuming the weather is favorable, of course)? Furthermore, do you not agree that your walk will be more enjoyable if you're in good company? If you

answer yes to both questions, then the President's Walk, Jog, Run is a must.

This 29 May "nooner" is a non-competitive, recreational event designed to involve athletes and non-athletes alike. Levity? Yes,

please. Participants are encouraged to wear, shall we say, distinctive clothing, carry signs and balloons and be festive.

The President's Walk, Jog, Run will take place from 12 to 12:30 p.m. on the course shown here.



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Public Affairs produces *Folio* on a regular basis for the staff and other interested persons.



University
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Classified advertisements: 3 p.m. one week in advance of desired publication date. This date also serves as the deadline for cancellation of advertisements. Advertisements cost 30 cents per word with no discount for subsequent insertions. There is a maximum limit of 30 words and a minimum charge of \$1.50. Contributors' corrections will be assessed at \$1.50 for each line in which an insertion is made.

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The editor reserves the right to select, edit and position submitted copy. Views expressed in *Folio* do not necessarily reflect University policy.

Folio contents may be reprinted with acknowledgment.

Currents

GFC Meeting Cancelled

The 26 May meeting of General Faculties Council has been cancelled. The next meeting will take place on Monday, 23 June, at 9 a.m.

Farewell Reception for Rod Banks

Rod Banks, Area Coordinator, Library Administrative Services, is leaving the University Library at the end of June after 25 years of service with the University. He is joining the University of New Brunswick as Associate Director of Libraries at Fredericton.

A farewell reception will be held for Mr. Banks at the Faculty Club on Friday, 13 June, from 3 to 5 p.m. All of his friends and colleagues are invited to attend.

Hot hors d'oeuvres will be served. If you plan to attend, please send \$6.50 to Marlene Sherban, Library Accounting, Cameron Library, by 29 May.

A gift will be presented; if you wish to donate, please enclose your contribution. Make your cheque payable to the University of Alberta and indicate "attendance" and/or "gift."

At 12:20 p.m., a five km run around campus will start on the Steve Fonyo track and finish there about 12:40.

While these events are big in the Physical Activity Week scheme of things, trust Staff Fitness and Lifestyle's Art Burgess to launch some other flares. There's Aerobicsfest '86 this Sunday at noon (Universiade Pavilion), the Fitness Road Show (noon, 26, 28 and 30 May), Volleyball in the Quad (noon to 1 p.m., 27 and 28 May) and Folk Dancing on the Grass (noon, 27 and 30 May).

Aerobicsfest '86 is a participation event for aerobic instructors, aerobic class participants and the general public. Five intensity levels ranging from beginner to advanced will be taught. There is an entry fee of \$2.

The Fitness Road Show offers free physical fitness tests in the Quad (CAB lobby if the weather is inclement) and the Tory Building on 26 May. On 28 May, testing will be available at the Materials Management Building and again in Quad. The centres of activity on 30 May will be the Walter Mackenzie Health Sciences Centre and Quad. Teams from the University's Fitness Unit will test fat folds, strength, and cardiorespiratory endurance.

Volleyball in the Quad is a recreational affair. Drop in, take turn when the opportunity presents itself and give way to others.

Lively ethnic dances will be staged in Quad. Bring your lunch. Dance or watch and soak up some rays. Instruction provided. □

Hall Returns With Dafoe Prize

David J. Hall, Professor and Chairman-designate in the Department of History, recently returned from Winnipeg, where he received the J.W. Dafoe Foundation's Book Prize of 1985 for his biography of Clifford Sifton. Volume 2, titled *A Lonely Eminence, 1901-1929*, was published last year by the University of British Columbia Press.

The J.W. Dafoe Prize, worth \$5,000, is awarded annually for the best book on Canadian public policy. The Foundation also offers scholarships in the areas of Canadian studies and international relations. □

'Confronting Technophobia' Comes Up Roses

Leave school at an early age and you can become a card-carrying member of Worriers Inc. Thirty-six female students at Calgary's Viscount Bennett High School, having found that out the hard way, led in the school's continuing education program, determined not to lose their way again. Their resolve was strengthened when they participated in "Confronting Technophobia" a two-day "meeting of science and society."

"Life hadn't been too kind to them," meeting organizer Margaret-Ann Armour said of the erstwhile dropouts who are now in their early 20s. Had they come here for the first such meeting in 1984, they might not have gone home with the same degree of confidence. At that time the concept was feeling its way. Now, says Dr. Armour, it has a much narrower focus. "We were able to give them role models and encourage them to keep their options open," she told *Folio*. One such option is grade 10 mathematics. Students were advised not to drop the subject because it will take on greater importance later on.

The theme of the first day (9 May), "Career Choices", was supported by a program that encouraged young women to consider careers in the sciences and engineering. The uplifting part for Dr. Armour and the other planners was that the majority of the students came back the next day to speak informally with people who addressed the public portion of the conference. (Out-of-town students and education personnel, the latter from Fort McMurray, Grande Prairie, Camrose, Red Deer and Lethbridge, stayed at Lister Hall.)

The over-all attendance was excellent. WISEST (the University of Alberta Committee on Women in Scholarship, Engineering, Science and Technology) anticipated about 400 registrations and that's what it got, due in large measure to high school principals and science supervisors who notified students of the meeting. (In addition to the Viscount Bennett group, there were students from John Diefenbaker School in Calgary and Edmonton's Ross Sheppard High School. Most of the students were female but some male students attended and will be encouraged to do so next year.)

One of the sights retained by Dr. Margaret-Ann is of a big lecture theatre full of students, including a number of inquisitive people from the Spring Session for Senior Citizens, eagerly awaiting the opening speaker, Professor of

Philosophy Robert Burch. What's so unusual about that? It was 9 a.m. on a Saturday.

Another aspect of the conference that pleased organizers was that after much deliberation they decided to charge a \$10 registration fee. "It's not more than most people are willing to give and it leaves them with the feeling that they have made a commitment to the conference and feel that it's worth coming to," Dr. Armour said. For the records conscious, the fees paid for lunches and coffee breaks; the conference proper was funded by the University and the provincial government.

Some sessions, for example, "Traditional and Modern Medicine", were more popular than others but Dr. Armour, who made a point of visiting each session, said that no one voiced a reluctance to attend a segment of the proceedings because none of it was of interest to that individual.

Each session had a speaker and a respondent and there was ample opportunity for questions. Nearby, the Nomad Scientists (home base: Concordia University) were leading children through an exploratory and sensory science experience designed to create positive impressions of science.

"Confronting Technophobia" was organized by WISEST and AASC, the Association for the Advancement of Science in Canada. Assistance was provided by Edmonton Public Schools.

For Dr. Armour and her colleagues, it's been time well spent. However, WISEST's other interests, including the forthcoming WISEST Summer Program, are demanding equal time and the feeling is that WISEST should defer the organization of future meetings to another body. The WISEST connection would be retained because the committee would like to lend its expertise to that body. □

Do You Want to Influence the Future Development of Your University?

You are invited to a public meeting on Wednesday, 28 May, at 7:30 p.m. to discuss future directions for the University of Alberta.

The meeting will take place in L-1 Humanities Centre.

To help in this discussion, a publication has just been released titled "The Next Decade and Beyond: A Plan for the Future."

To be prepared to participate fully, write or telephone for your copy today:

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Folio

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Folio is the official news publication of the University of Alberta, published every Thursday throughout the year (except for July and August when it appears bi-weekly). It has a regular distribution of 9,000 of which 7,800 copies are circulated to teaching and support staff, to graduate students and to other interested people on campus. The remaining copies are sent to provincial and municipal government personnel, news outlets, and businesses and people off-campus.

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The basic unit size is 27 aggregate lines x 23 picas (3 7/8" x 2"). The full page is divided into 10 such units, any combination of which is available at a cost of \$35 per unit (minimum 1 unit). Half page cost: \$175. One column cost \$87.50. There is a 15% discount for University departments. A 10% discount is offered for five or more consecutive insertions.

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Biofeedback Helps Migraine Sufferers

A revolution in biofeedback is helping migraine sufferers to be headache free.

The revolution happened when a researcher at the University of Alberta moved stress measurement monitors from behind the patient (where they've usually been) and put them out in front where the patient can see them. By watching what shows up on the dials, and trying to influence the needle movement, patients have been able to learn to control what's happening in their nervous system.

"Putting the monitors in front completes the information loop—and it's been like throwing a switch," says George Fitzsimmons, an educational psychologist who has been studying biofeedback for 10 years.

Seventy-six people have been through the final version of his migraine program, in which "treatment" incorporated the findings of earlier studies. Seventy-five percent were successfully treated—and were still headache free a year later.

Twenty-five percent weren't helped. But as treatment was limited to 12 sessions, it's possible that some people might have benefited from attending further sessions.

Dr. Fitzsimmons' first step in helping migraine sufferers is to find out how a person reacts to stress. Using machines that measure stress and temperature, the patient's stress profile is charted. This profile will show temperature and stress measurements at resting level, and charts them on their way to a peak, and as they return to normal.

With some people, temperature is very slow to return to normal; with others, there's a long delay in muscle relaxation.

This is their characteristic, personal, bracing pattern, and it determines which approach is used to learning biofeedback.

Patients with slow temperature return are "hooked up" to monitors registering temperature; those with delayed muscle relaxation are "hooked up" to tension monitors. The monitor is put in front of the

patient, so she can see where the needle is (migraine sufferers are primarily women), and it's likely to be over to the right, indicating stress.

"Can you get the needle to move to the left?" the researcher will ask.

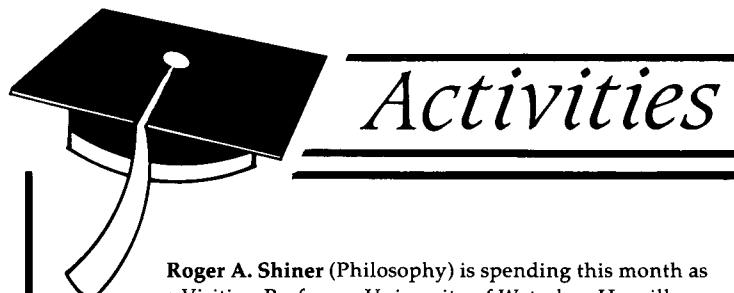
And, with practice, the patient can do it.

"They can't put into words what they do," says Fitzsimmons. "But they can do it. They see what is showing up on the machine and they learn how to control it. It is a matter of self-regulation—but they can't explain what they do."

His clients (as he prefers to call them, since he is researching the treatment of headaches, not practicing medicine) go through 12 sessions, hooked-up to the monitors. They watch the needle, and they learn to influence its movement as the researcher suggests. In the last two or three sessions they are weaned from the monitor, learning to produce increased and decreased readings without being able to see the dial. When they can do this, they're able to continue self-regulation on their own at home.

Subjects for Fitzsimmons' study (whose ages ranged from 18 to 55) were referred by neurologists or by physicians or were simply people who had heard of his research, all had to have a letter of approval from their physician.* □

*This article is reprinted from the May/June issue of Research Report.



Activities

Roger A. Shiner (Philosophy) is spending this month as a Visiting Professor, University of Waterloo. He will give 12 seminars on "Law, Society, and Human Nature" to the staff and graduate students of the Philosophy Department . . . Our University was the hosting institution for the Annual Meeting of the North American Society for Seventeenth-Century French Literature. Among the participants at the 24 to 26 April meeting in Banff were Michel Bareau (President), Vivien Bosley and Anton Soare . . . Bruce Bain (Educational Psychology) and Agnes Yu (Edmonton Public Schools) published "Canadian Ideology and Language Education" in *Saskatchewan Multicultural Magazine* . . . University Professor L.C. Green was a panelist at the 39th Annual Conference on World Affairs at the University of Colorado, 6 to 12 April. Shortly thereafter, he participated in the International Legal Conference on Anti-Semitism, Anti-Zionism and the United Nations organized by the NYU School of Law and the Blaustein Institute for the Advancement of Human Rights and he and M.P. Ritter, graduate student in Political Science, presented papers at Carleton University. The occasion was the 3rd Annual Symposium on Arms Control and Disarmament Verification . . . James Sprague and John Whittaker (Mechanical Engineering) have published *Economic Analysis for Engineers and Managers: The Canadian Context* . . . Nursing's Kay Dier will be returning to Pakistan in June for a two-month assignment. She will assist in the establishment of a baccalaureate program in nursing at the Aga Khan University Medical Centre in Karachi.

Talks

Alberta Heritage Foundation for Medical Research

22 May, 2:30 p.m. Yoko Naya, Associate Director, Suntory Institute for Bioorganic Chemistry, Japan, "Recent Studies in Ecochemicals: Symbiosis-inducing Compounds Between the Sea Anemone and Anemone Fish." E3-25 Chemistry Building.

23 May, 10 a.m. Dr. Naya, "Recent Studies in Ecochemicals: The Chemical Identity of a Molt-inhibiting Hormone." 4069 Dentistry Pharmacy Centre. Dr. Naya will talk with members of WISEST and the UAYS during her visit to the University.

Economics

22 May, 3 p.m. Jan Kmenta, University of Michigan, "Recent Developments in Econometrics III." 8-22 Tory Building.

Reuben Benjamin Sandin Lecture Series

23 May, 11 a.m. Cheves Walling, University of Utah, "Some Chemistry of

Radical Cations." E1-60 Chemistry Building.

Edward Herbert Boomer Lecture Series

26 May, 11 a.m. Gary M. Hieftje, Professor of Chemistry, Indiana University, "Fluctuation Analysis Spectroscopic Techniques (FAST) for the Laser-Based Observation of Rapid Chemical Events." V-107 Physics Building.
27 May, 11 a.m. Professor Hieftje, "Mechanisms of Atom and Ion Formation and Excitation in Spectroscopic Sources." V-107 Physics Building.
29 May, 11 a.m. Professor Hieftje, "Fundamental and Applied Investigations Into Atomic Spectrometry." V-107 Physical Building.

Rehabilitation Medicine

27 May, 1:30 p.m. Carl Granger, Department of Rehabilitation Medicine, Buffalo General Hospital, "Rehabilitation Outcomes in Stroke." Glenrose Rehabilitation Hospital Auditorium.
27 May, 4 p.m. Dr. Granger, "National Data Collection System." 203 Corbett Hall.
28 May, 9 a.m. Dr. Granger, "Principles of Functional Assessment in Rehabilitation." (Keynote address for Rehabilitation Research Day, University of Alberta Hospitals), Department of Physical Medicine. 2-115 Clinical Sciences Building.

The Arts

Ring House Gallery

Until 25 May. "Chisel and Brush"—an exhibit of stonewall and stencil prints created by Inuit artists. Co-sponsored by the Boreal Institute for Northern Studies in celebration of its 25th Anniversary.
June. "Against Great...—Posters of Nicaragua"—82 posters from and about Nicaragua tell the story of the Sandanista revolution in 1979.

SUB Theatre

Until 31 May, 7:30 a.m. to 11 p.m. The Alberta Dance Educators' Association's Annual Dance Competitions. Marie Casey, 463-2105.
1 June, 2 p.m. St. Basil's Language Arts Society Annual Year End Concert. Marie Jiry, 435-2810.
3 June, 7:30 p.m. Marr Mac Dance School Production. 435-4933.

Edmonton Film Society

26 May, 8 p.m. British Film Classics, "The Little Kidnappers" (1954).
2 June, 8 p.m. "The Passionate Friends" (1949).

Musicians' Chamber Music Appreciation Society

2 June, 8 p.m. Marc Stocker—flute, Nora Bumanis—harp, Peter Douglas—bassoon with members and guests of the Debut String Quartet. Convocation Hall.

Studio Theatre

5 to 14 June. "Waiting for Godot." 432-2495.

Broadcasts

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CKUA radio 580 AM and 94.9 FM.
24 May, 7 p.m. "University Concert Hall."
31 May, 7 p.m. "University Concert Hall." (Last concert until fall.)

Award Opportunities

The Rotary Foundation Graduate Scholarships

Donor: The Rotary Foundation of Rotary International. **Where tenable:** A country in which there are Rotary clubs, but not in the country of the sponsoring Rotary Club. Applicants are strongly encouraged to study in a country where they have not previously lived or studied. **Level:** Post-graduate. **Field:** Open. **Value:** Round-trip transportation between scholar's home and study city, all required academic fees, some necessary educational supplies, on-campus double-occupancy room, on-campus board, limited educational travel, and limited contingency expenses. **Number:** Not specified. **Duration:** One academic year (usually nine months). Not renewable. **Conditions:** Must complete a bachelor's degree or equivalent before commencement of scholarship duties; age as of 1 October 1986 is 18 through 30 inclusive; may be married but spouse's expenses not paid; proficiency in native language of host country; citizen of a country in which there is a Rotary Club; cannot accept additional funding without approval by the Rotary Foundation; cannot accept full-time employment in host country. **Closing date:** All applicants must check with their club and district of application to determine local application deadlines. **Further information and application forms should be requested from:** Rotary Club of Edmonton, c/o H. Douglas Montemurro, Parlee, Barristers and Solicitors, 1800, 10405 Jasper Avenue, Edmonton, Alberta. Telephone: 423-8620.

Epilepsy Research Awards

Two awards, one of \$1,000 and one of \$500, will be presented by the Edmonton Epilepsy Association for research related to epilepsy or direct service to individuals with epilepsy. Additional awards in smaller amounts will also be available in the form of services or materials for children or adults with epilepsy. **Further information and application forms should be requested from:** Margo Ballash, Executive Director, Edmonton Epilepsy Association, 416 10010 105 Street, Edmonton, Alberta T5J 1C4. Telephone 422-2710, 422-4034. **Application deadline:** 1 June 1986.

Imasco Scholarship Fund for Disabled Students

Purpose: To encourage young Canadian disabled students to pursue university studies with the ultimate objective of obtaining a university degree. **Field:** Undergraduate program in any field of study. **Value:** Each scholarship is valued at \$2,000 annually. **Number:** Minimum 5. **Duration:** One academic year—may be renewed upon application. The holder of an Imasco Scholarship is eligible to apply in subsequent years provided he submits an academic transcript indicating that he has maintained satisfactory academic standing. The applicant, in his final year of study and required to attend only one academic term before graduation, is eligible to apply for a \$1,000 scholarship provided all other criteria are met.

Conditions: Candidates must be disabled according to the following 1975 United Nations Declaration: A disabled person is "any person unable to ensure himself wholly or partly the necessities of a normal individual and/or social life, as a result of a deficiency, either congenital or not, in his physical or mental capabilities." Candidates must be Canadian citizens. Candidates must have successfully completed the schooling

requirements or equivalent for admission to an undergraduate program of study in, or currently be registered as a full-time undergraduate student in, a Canadian university which is a member or is affiliated with a member of the Association of Universities and Colleges of Canada. Holders of an undergraduate degree are not eligible for the scholarship. **Program administration:** The Scholarship program is administered by the AUCC on behalf of Imasco Limited and selection is made by a committee of university representatives, who base their decisions on the academic excellence of the students, their levels of motivation and maturity. The sponsoring company, Imasco Limited, does not participate in the selection process. **Eligible institutions:** Any Canadian university which is a member of, or affiliated with a member of the AUCC. **Application forms:** may be obtained from: Marion Nicely, Office of Dean of Student Services, 300 Athabasca Hall, 432-4145. **Application deadline:** 1 June 1986.

term beginning 1 November 1986, with the possibility of renewal. The salary range is \$30,316 to \$43,780.

The Women's Program, initiated in 1981, links the resources of the University with needs and interests of women in the community for information, for education and for change. The over-all goal is the provision of educational interest to women which will increase awareness of the position of women in society and provide them with opportunities and means for improving that position, both individually and collectively.

Work includes a wide range of university-level non-credit courses, workshops, conferences and public talks in the areas of applied women's studies, issues of relevance to women and personal and skill development for women. Community action research on issues of importance to women will be undertaken as will liaison with local and national women's organizations.

Candidates should have a master's or a doctorate in women's studies, adult education, community development or other related discipline, and a minimum of three years' experience in the development and provision of innovative educational programming for women.

Candidates should have a demonstrated knowledge of the women's movement and a demonstrated commitment to the creation of opportunities for women's learning from a feminist perspective. Awareness of current issues impacting on women is essential. Experience in social animation and community based-research and familiarity with women's organizations in Alberta would be an asset.

Candidates should be creative, flexible, have strong interpersonal and communication skills and work well under pressure.

A letter of application, *curriculum vitae*, and the names and addresses of three references should be sent before 30 June 1986 to: Dr. D. Foth, Dean, Faculty of Extension, University of Alberta, 220 Corbett Hall, Edmonton, Alberta T6G 2G9.

Non-Academic

To obtain further information on the following positions, please contact Personnel Services and Staff Relations, 2-40 Assinboia Hall, telephone 432-5201. These vacancies cannot be guaranteed beyond the date of publication.

Clerk Steno II, Soil Science, (\$1,190-\$1,478)

Senior Clerk, Physical Plant—Parking Services, (\$1,190-\$1,478)

Clerk Typist III (Receptionist), Personnel Services and Staff Relations, (\$1,326-\$1,666)

Clerk Steno III, Dean of Education, (\$1,326-\$1,666)

Clerk Steno III, Sociology, (\$1,326-\$1,666)

Clerk Steno III, Physiology, (\$1,326-\$1,666)

Clerk Steno III, Student Counselling Services, (\$1,326-\$1,666)

Data Entry Operator II (Part-Time Term), Educational Research Services, (\$686-\$870)

Student Records Processing Clerk II, Dean of Science, (\$1,478-\$1,888)

Payroll Clerk, Office of the Comptroller, (\$1,478-\$1,888)

Executive Secretary (Trust, Term to 31 December 1986), R.S. McLaughlin Examination and Research Centre, (\$1,666-\$2,144)

Technologist I (Part-Time Recurring), Zoology, (\$1,340-\$1,730)

Chemical Technician I, Soil Science, (\$1,534-\$1,968)

Field Technician, Soil Science, (\$1,534-\$1,968)

Editorial Assistant, Educational Administration, (\$1,810-\$2,237)
Nurse, University Health Service, (\$1,968-\$2,548)
Senior Coordinator I, Office of the Registrar, (\$2,053-\$2,551)

For vacant Library positions, please contact the Library Personnel Office, Basement, Cameron Library, 432-3339.

Advertisements

Accommodations available

Lease - Five-bedroom bungalow available 8-12 months commencing August/1 September. North Glenora. Easy access to University. Owner will lease this home furnished/unfurnished. Graystone Management, 11150 83 Avenue. (403) 433-0944.

For rent - Three-room apartment. Own entrance. Three blocks from University. \$380 monthly. Older person preferred. 433-4870.

Rent - Three large rooms, kitchenette, three piece bathroom. Separate entrance, ground level. Country setting. Fifteen minutes from University. 434-6022.

Sale - Parkallen semi-bungalow. Upgraded excellent condition. Double garage. \$82,500. Call Sharon Campbell, Re/Max Real Estate. 438-1575.

For sale or long-term lease - Pigeon Lake. New three-bedroom natural log house. Double treed lot at Johnsonia Beach, one-hour drive from Edmonton. Phone 435-8467.

Sale - Windsor Park. Cozy home. Hardwood floors. Immaculate, well developed. Large attractive yard. Chris Tenove, 433-5664, 436-5250. Spencer's.

Sale - Grandview. Elegant custom-built home. Excellent condition. Double attached garage. Chris Tenove, 433-5664, 436-5250. Spencer's.

Sale - Riverbend. Attractive home. Asking \$134,900. Owner transferred. Chris Tenove, 433-5664, 436-5250. Spencer's.

Sale - Lakefront. Wabamun, 100' lake frontage. Private beach. View lot. Chris Tenove, 433-5664, 436-5250. Spencer's.

Sale - University area. Cozy, immaculate home. Excellent condition. Double garage. Chris Tenove, 433-5664, 436-5250. Spencer's.

Sale - Sask. Drive. 1,900 sq. ft. bungalow. Two fireplaces. Large lot. Chris Tenove, 433-5664, 436-5250. Spencer's.

Sale - Close to University. Bungalow, excellent condition. New kitchen, hardwood floors, finished basement, forced air furnace. 433-1096 after 4.

Sale - Two-bedroom condominium close to University. Two balconies, five appliances. Ungraded broadloom. Underground parking. \$75,500. 432-1764.

For rent - furnished three-bedroom house in Royal Gardens. Family only. \$600. Available 1 July. 437-7684.

Sale - By owner. Bright and cheerful three-bedroom house in south Garneau. Quiet location. New suite in basement. \$92,500. 433-7567 after 3:30 p.m.

Rent - Three-bedroom house, \$700/month, for summer or full year. 10937 86 Avenue. 432-7297.

Sale - Lendrum. Four-bedroom bungalow, three bathrooms, garage. Mortgage 10 1/4 %. 434-7392.

House for rent - Main floor, two bedrooms, semi-furnished, four

appliances, garage, garden, south side. Available 1 July. \$500/month. 454-4431.

Rent - Fully furnished three-bedroom home in Capilano. Garage, fenced yard, play area. Non-smokers, no pets. August '86-June '87. \$950/month plus utilities. 466-3257.

Lease - One year, two-bedroom self-contained beautifully furnished condominium overlooking River Valley or exchange for similar property in Vancouver area. Phone 482-3330 or weekends 967-3034.

Sale - Duggan. Three-bedroom, bi-level. Finished basement, double garage. \$89,500. 432-3559.

Rent - Duggan, three-bedroom, bi-level. Finished basement. 1 June. \$850/month. 432-3559.

Rent - Well furnished, three-bedroom bungalow, deck, St. Albert. Available 14 June to 31 August. Terms negotiable. No pets. No smokers. 459-0948 evenings.

Sale - Transferred, must sell immaculate executive condo. Centrally located, 1,240 square foot bi-level, two bedrooms, 2 1/2 baths, jacuzzi, walk-in closet, balconies, fireplace, six appliances, heated parking. Mary McLean, 488-5500.

Sale - Parkallen bungalow. Hardwood floors, big lot. Close to University. You can occupy upstairs and rent out neat basement suite. Pat Von Borstel, 437-6540, 436-5250. Spencer's.

Sale - Laurier. Quiet crescent location facing park. Three-bedroom bungalow. Family room/fireplace. Games room. Professionally designed kitchen. \$114,000. 14608 82 Avenue. 436-0011, 483-4988.

Rent - July, August. Lovely four-bedroom home. Walking distance to University. Furnished. Non-smokers. \$1,000/month. (403) 433-8322.

For sale - \$79,900. Crestwood three-bedroom bungalow. Attractively decorated, double garage. Close to schools, shopping, bus. Eleanor Duncan, Royal LePage. 434-7368, 438-4700.

For sale - \$134,900. Riverbend two-storey, four-bedroom home. Centre hall plan, south fenced garden, deck, family

room, fireplace, attached garage. Eleanor Duncan, Royal LePage. 434-7368, 438-4700.

For sale - Lakefront four-bedroom cottage at Kapasiwin Beach. Bunkhouse, boathouse, sandy beach. Attractive wooded lot, view. \$94,500. Eleanor Duncan, Royal LePage. 434-7368, 438-4700.

For sale - Garneau award-winning design. Multi-level, three-bedroom home, south garden, solarium, passive solar heating, fireplace, garage. Eleanor Duncan, Royal LePage. 434-7368, 438-4700.

Accommodations wanted

Professional couple with one child wish to rent four-bedroom home, double garage, all appliances. Phone 467-4142 evenings.

Responsible couple requires two- or three-bedroom house or bi-level with developed basement. Easy access to University. Quiet area. Must be immaculate. Call Dianne, 432-2015 or 439-7615.

Five-bedroom home to rent for minimum of one year. University area preferred, starting August. Dr. G. Bird, 464-9407 or 992-0017 (home).

Automobiles and others

1985 1/2 Porsche 944, loaded, immaculate condition. \$33,500. 432-3619, 437-7806.

Goods for sale

Cash paid for used appliances, 432-0272. Guaranteed minimum \$50 trade-in on your typewriter for new electronic typewriters starting at \$449. Mark 9, HUB Mall, 432-7936.

\$40 off new electric typewriters, correcting key, full warranty, \$199. Mark 9, HUB Mall.

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Books bought and sold - The Edmonton Book Store in HUB Mall will pay cash for book collections and individual, rare items. Appraisals available. Open seven days a week. 433-1781.

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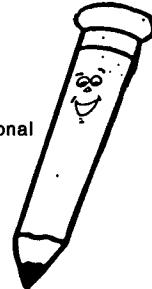
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